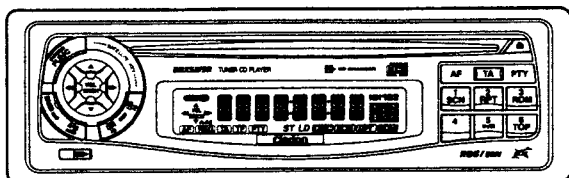
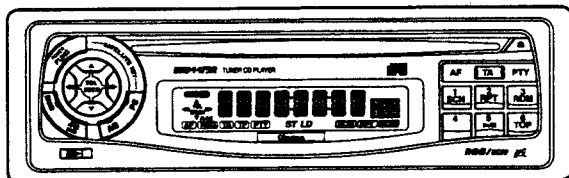


Service Manual



Model DRX5375R



Model DRB4475R

AM/FM CD Player
with CD Changer Control

Model **DRX5375R**
(PE-2231E-B)

AM/FM CD Player

Model **DRB4475R**
(PE-2270 E-A/illumination:Amber)
(PE-2270 E-B/illumination:Green)

SPECIFICATIONS

FM tuner section

Frequency range: 87.5 to 108MHz (0.05MHz steps)

MW tuner section

Frequency range: 531 to 1602kHz (9kHz steps)

LW tuner section

Frequency range: 153 to 279kHz (3kHz steps)

CD player section

System: Compact disc audio system

Usable disc: Compact disc

Frequency response: 10Hz to 20kHz (± 1 dB)

Signal to Noise ratio: 96dB (1kHz, IHF-A)

Dynamic range: 95dB (1kHz)

Distortion: 0.01%

General

Maximum power output:

30Wx4ch

Power supply voltage:

14.4V DC (10.8V to 15.6V)

Ground: Negative ground

Speaker Impedance: 4 Ω (4 Ω to 8 Ω)

Current consumption:

Less than 10A

Dimensions: 178(W)x50(H)x155(D)mm

Weight: 1.7kg

COMPONENTS

PE-2231E-B, PE-2270E-A/E-B

Main unit		1
Parts Bag		
Extension lead	850-668100	1
Hook Plate	330-82160L	2
Lead holder (PE-2231E-B Only)	335-083301	1
Screw	716-072601	1
Spaser	345-365301	1
DCP Case	335-533130	1
Mounting bracket	300-903503	1

* Specifications comply with EIA Standards.

* Specifications and the design are subject to change without notice for further improvement.

■ To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

1. Use specified parts.

The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.

The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.

2. Place the parts and wiring back in their original positions after replacement or re-wiring.

For proper circuit construction, use of insulation tubes, bonding, gaps to PWB, etc., is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.

If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.

3. Check for safety after repair.

Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary problems around the repaired spots.

If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

4. Caution in removal and making wiring connection to the parts for the automobile.

Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.

5. Cautions regarding chips.

Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.

6. Cautions in handling flexible PWB

Before working with a soldering iron, make sure that the iron tip temperature is around 270°C. Take care not to apply the iron tip repeatedly (more than three times) to the same patterns. Also take care not to apply the tip with force.

7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

8. Cautions in checking that the optical pickup lights up.

The laser is focused on the disc reflection surface

through the lens of the optical pickup. When checking that the laser optical diode lights up, keep your eyes more than 30cms away from the lens. Prolonged viewing of the laser within 30cms may damage your eyesight.

9. Cautions in handling the optical pickup

The laser diode of the optical pickup can be damaged by electrostatic charge caused by your clothes and body. Make sure to avoid electrostatic charges on your clothes or body, or discharge static electricity before handling the optical pickup.

9-1. Laser diode

The laser diode terminals are shorted for transportation in order to prevent electrostatic damage. After replacement, open the shorted circuit. When removing the pickup from the mechanism, short the terminals by soldering them to prevent this damage.

9-2. Actuator

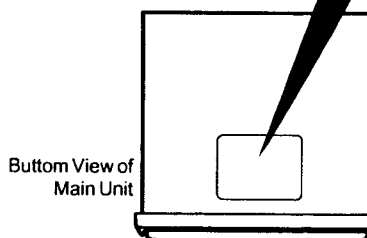
The actuator has a powerful magnetic circuit. If a magnetic material is put close to it, its characteristics will change. Ensure that no foreign substances enter through the ventilation slots in the cover.

9-3. Cleaning the lens

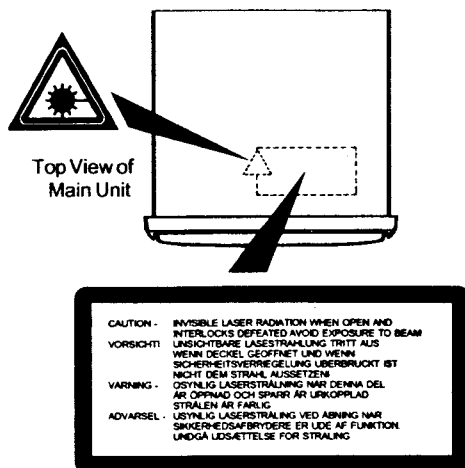
Dust on the optical lens affects performance. To clean the lens, apply a small amount of isopropyl alcohol to lens paper and wipe the lens gently.

■ CAUTIONS

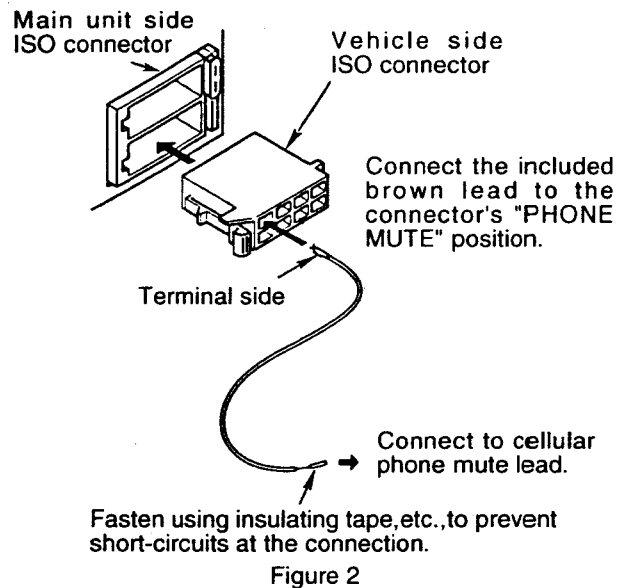
This appliance contains a laser system and is classified as a "CLASS 1 LASER PRODUCT". To use this model properly, read this Owner's Manual carefully and keep this manual for your future reference. In case of any trouble with this player, please contact your nearest "AUTHORIZED service station". To prevent direct exposure to the laser beam, do not try to open the enclosure.



Bottom View of Main Unit



2. The lead include with the unit must be connected to the specified position of the vehicle's ISO connector in order to use the "triggered audio mute for cellular telephones" function.(Figure 2)



NOTES

1. For VW and Audi vehicles, change the position of fuse installation as shown on the diagram.(Figure 1)

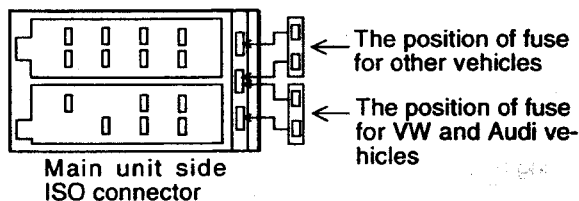


Figure 1

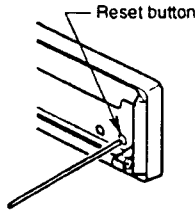
ERROR DISPLAYS

If an error occurs, one of the following displays is displayed. Take the measures described below to eliminate the problem.

Error Display	Cause	Measure	Model
CD ER2	A CD is caught inside the CD deck and not ejected	This is a failure of CD deck's mechanism.	PE-2231E-B PE-2270E-A
CD ER3	A CD cannot be played due scratches, etc.	Replace with non-scratched, non-warped-disc.	PE-2270E-B
CDCH ER2	A CD inside the CD changer is not loaded.	This is a failure of CD changer's mechanism.	PE-2231E-B
CDCH ER3	A CD inside the CD changer cannot be played due to scratches, etc.	Replace with a non-scratched, non-warped-disc.	
CDCH ER6	A CD inside the CD changer cannot be played because it is loaded upside-down	Eject the disc then reload it properly.	

If an error display other than the ones described above appears, press the reset button.

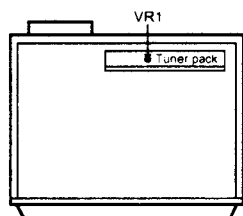
■ TROUBLESHOOTING

Problem	Cause	Solution
Power does not turn on. (No sound is produced.)	Fuse is blown. Incorrect wiring.	Replace with a fuse of the same amperage. Wire properly.
Compact disc cannot be loaded.	Another compact disc is already loaded.	Eject the compact disc before loading the new one.
Sound skips or is noisy.	Compact disc dirty. Compact disc is heavily scratched or warped.	Clean the compact disc with soft cloth. Replace with a compact disc with no scratches.
Sound is bad directly after power is turned on.	Water droplets may from on the internal lens when the car is parked in a humid place.	Let dry for about 1 hour with the power on.
Nothing happens when buttons are pressed.	Microprocessor has malfunctioned due to noise, etc.	Turn off the power, then press the OPEN button and remove the DCP.
Display is not accurate.		Press the reset button for about 2 seconds with a thin rod. 
	DCP or source unit connectors are dirty.	Wipe the dirt off with a soft cloth moistened with cleaning alcohol.

■ ADJUSTMENTS

Item	Procedure	Measuring instrument
S-meter	1. Input the 98.1MHz/30dB μ (400Hz-MOD 30%) signal. 2. Turn on the power switch. and, Press the AF button and CH6 button at the same time. (TEST MODE) 3. Adjust the reading of LCD indicator to [30----00] ($3.0V \pm 0.2V$) by VR1.	SG

Adjust point



EXPLANATION OF IC

■ μ PD178016GC-511-3B9 052-1308-00 Master Micro Computer

Outward Form

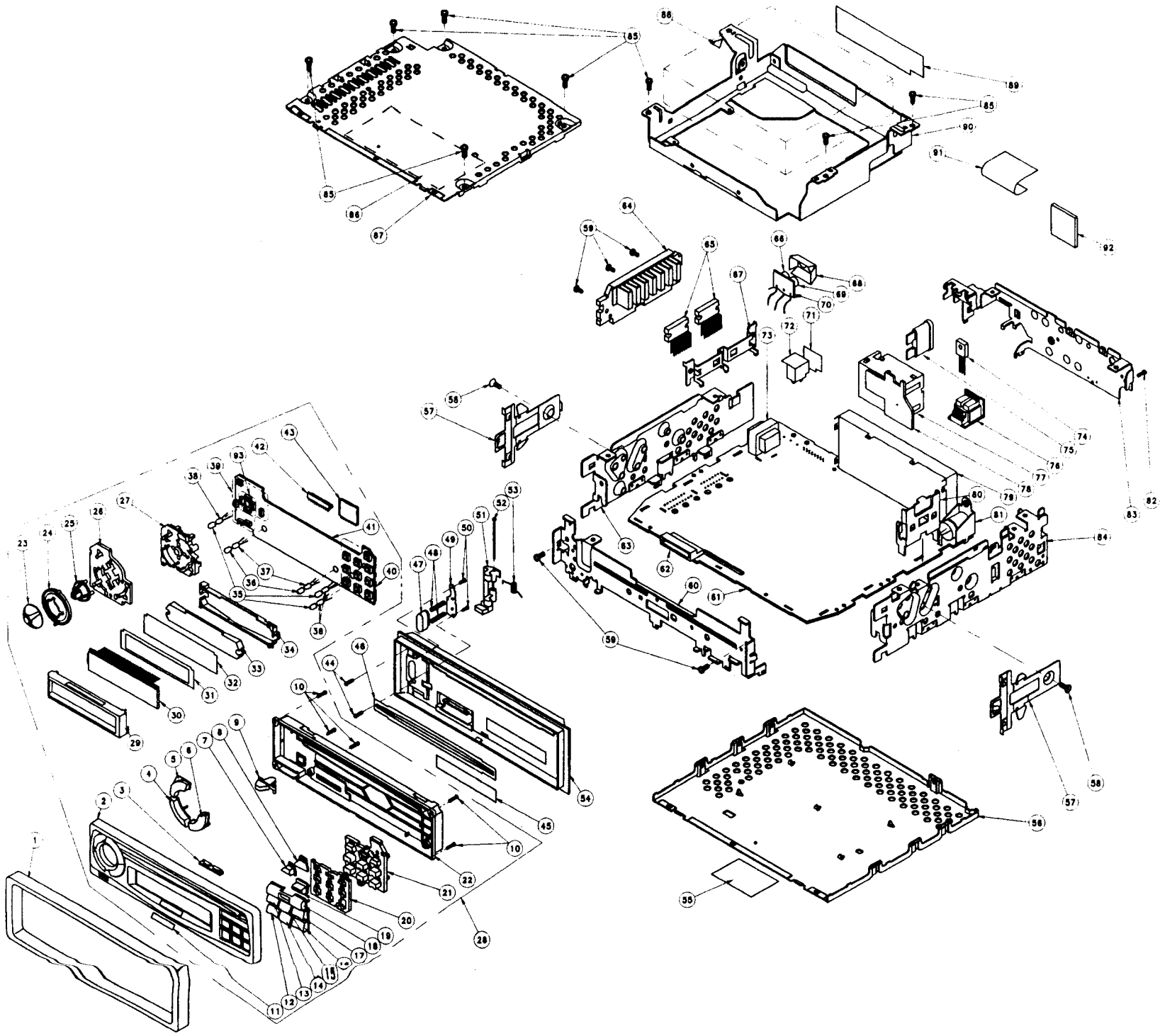
80 pins, plastic QFP

Terminal Description

No.	Symbol	I/O	Function
1	CD TEMP	I	When the voltage on the terminal turns below 1/2 Vdd, it stops the mechanism as it judges the CD pickup is overheated
2	KEY A/D	I	Input terminal for detecting key pushed out of DCP/EJECT/FUNCTION
3	S-METER	I	Connects FM S meter signal
4	RDS NOISE	I	Noise level detection terminal for FM RDS and SEEK
5	GND 2	I	Not in use
6	RDS DISCHG	O	RDS output terminal for discharging the voltage detected by RDS NOISE
7	LCD SI	I	Serial data communication line with LCD driver
8	LCD SO	O	
9	LCD SCK	O	
10	LCD CE	O	
11	C-BUS SRQ	I	Request signal input terminal reading status from slave microcomputer. When this terminal turns Low it detects the status reading requested
12	C-BUS SI	I	C-BUS data communication line
13	C-BUS SO	O	
14	C-BUS SCK	O	
15	AM ON	O	Output terminal for AM ON signal
16	FM ON	O	Output terminal for FM ON signal
17	5V REM	O	Outputs signal for 5V power ON around micro computer
18	+B REM	O	Outputs Hi by power ON, supplying +B power
19	SYS MUTE	O	Output terminal for system mute signal
20	SOFT MUTE	O	Output terminal for switching an FM SOFT MUTE constant
21	GND PORT	-	GND
22	VDD PORT	-	Power supply terminal
23	AM LOCAL	O	Outputs Hi when the first round starts in LOCAL SEEK and auto store. After receiving signal it returns to Hi output.
24	REM OUT SAV	O	Terminal to output signal to cancel remote-protection circuit latch. Outputs Hi pulse for 50 m Sec when power switch is turned ON.
25	RDS MUTE	O	RDS output terminal for noise reduction during follow-up motion
26	L.P.F. SW	O	Output terminal for switching time constant of FM L.P.F.
27	IF REQ	O	Output "H" during auto tuning in AM/FM mode.
28	AM IFC	I	Not in use
29	FM IFC	I	Not in use
30	VDD PLL	-	PLL power supply terminal
31	VCO H	I	Not in use
32	VCO L	I	
33	GND	-	
34	EO 0	O	
35	EO 1	O	Not in use
36	IC	-	GND
37	AM SD	I	Detection terminal for AM SD. Judges SD ON by Hi
38	FM SD	I	Detection terminal for FM SD. Judges SD ON by Hi
39	FM ST	I	Detecting terminal for FM stereo indicator
40	PLL DI	I	PLL data communication terminal with PLL IC
41	PLL SCK	O	
42	PLL DO	O	
43	PLL CE	O	
44	CD 8V REM	O	Outputs "L" to turn on a power of CD mechanism.
45	RDS +B REM	O	Spare terminal for RDS decoder power ON

No.	Symbol	I/O	Function															
46	BLINKING LED	O	LED flashing output signal															
47	FM LOCAL	O	Outputs Low when the first round starts in LOCAL SEEK and auto store. After receiving signal it returns to Hi output															
48	CD 5V REM	O	Outputs "L" to turn on a power supply of CD IC and DAC IC.															
49	EVOL CLK	O	Serial data communication line to electronic volume IC															
50	EVOL DATA																	
51	LD ON	O	Outputs "L" to turn on a Laser diode.															
52	CHAK-SW	I	Terminal to detect the completion of CD DISC chucking. When the chucking SW is ON after DISC is loaded. Low is input															
53	MCCW MCW	O	In DISC loading/EJECT mode, the condition of these two terminals are as follows:															
54																		
			<table><tr><td></td><td>Loading</td><td>EJECT</td><td>Brake</td><td>Stop</td></tr><tr><td>MCW</td><td>Hi</td><td>Lo</td><td>Hi</td><td>Lo</td></tr><tr><td>MCCW</td><td>Lo</td><td>Hi</td><td>Hi</td><td>Lo</td></tr></table>		Loading	EJECT	Brake	Stop	MCW	Hi	Lo	Hi	Lo	MCCW	Lo	Hi	Hi	Lo
	Loading	EJECT	Brake	Stop														
MCW	Hi	Lo	Hi	Lo														
MCCW	Lo	Hi	Hi	Lo														
55	C	I	Terminal to detect the condition of DISC loading, chucking or others. When DISC is not inserted. Low is input for A/B/C terminal															
56	B																	
57	A																	
58	SQSO	I	Data input terminal to read SUB-Q data from CD IC															
59	SQCK	O	Clock signal output terminal to read SUB-Q signal from CD IC															
60	SENS	I	Controls CD by inputting a signal such as FZC, AS, TZC, SSTOP, BUSY, etc. from CD IC.															
61	XRST	O	Reset output terminal for CD/servo IC															
62	CLK	O	Clock output terminal for CD/servo IC control															
63	XLAT	O	Latch output terminal for CD/servo IC control															
64	DATA	O	Data output terminal for CD/servo IC control															
65	SCLK	O	Clock output to read coefficient from CD IC															
66	RDS DATA	I	Inputs data from RDS decoder															
67	RDS CLK	I	Clock signal input from RDS decoder															
68	B/U DET	I	When this terminal turns Low, micro computer detects the B/U OFF and turns micro computer to STOP mode, stopping oscillation															
69	ACC DET	I	ON/OFF detection terminal for ACC power supply															
70	GND	I	GND															
71	KEY INT	I	Key insertion input terminal. Low when EJECT key or FUNC(Power) key pushed. When this terminal turns Low, key A/D terminal detects the key pushed															
72	SCOR	I	Microcomputer takes in SUB-Q data immediately after inputting Hi pulse.															
73	PHONE INT	I	Input terminal for phone interrupt															
74	REG CPU	-	Regulator terminal for CPU power supply. Connected to pass con against noise															
75	GND	-	GND															
76	X2	-	Connecting terminal for oscillating crystal for main system clock															
77	X1	I																
78	REG OSC	-	Power supply regulator terminal for oscillator. Connected to pass con against noise															
79	VDD	-	Power supply terminal															
80	RESET	I	Micro computer will stop by turning this terminal to "Low"															

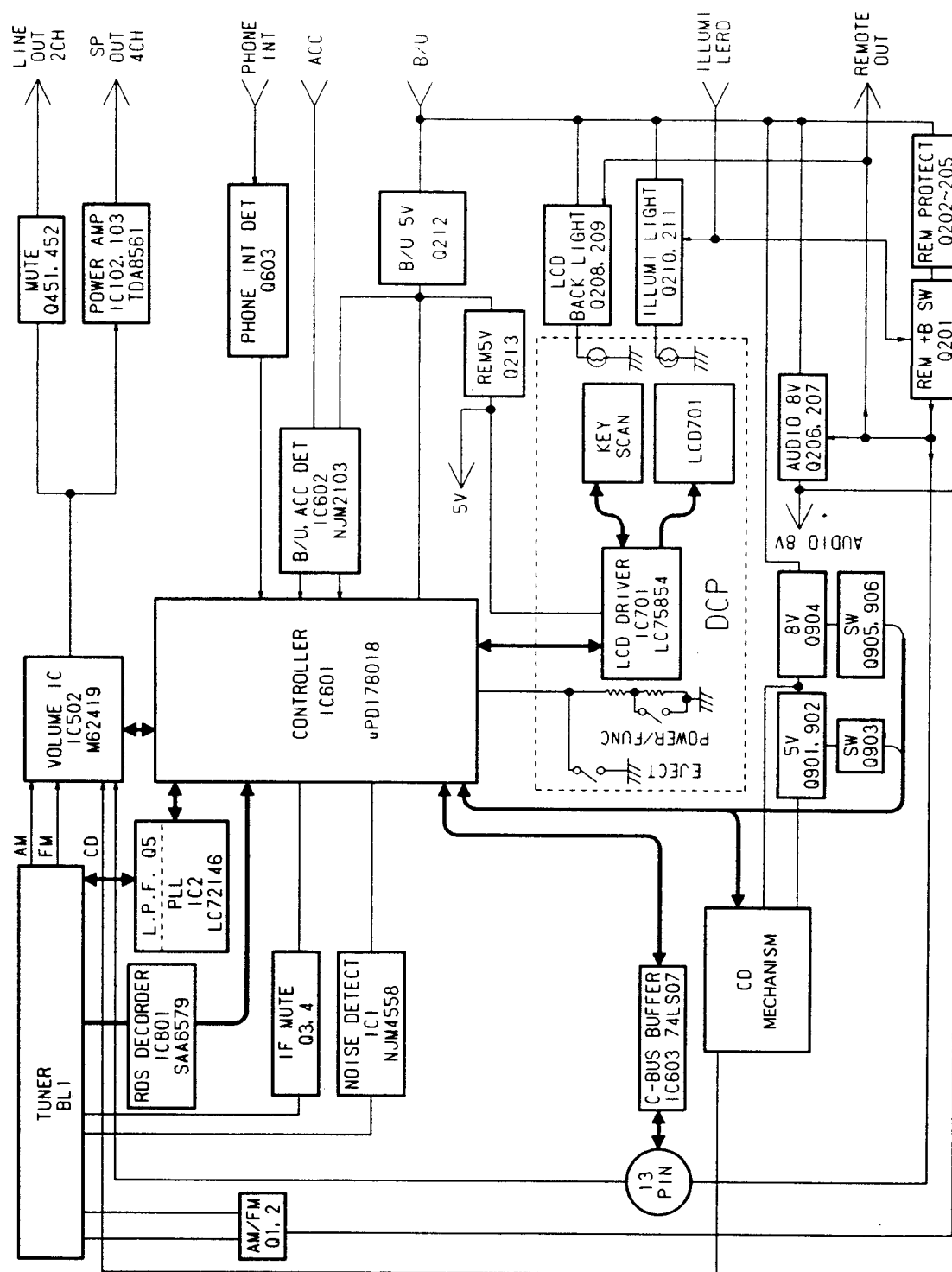
EXPLODED VIEW • PARTS LIST Main section



NO	PART NO.	DESCRIPTION	Q'TY
1	370-9006-32	OUTER-ES	1
2	370-5640-00	ESCUTCHEON (PE-2231E-B)	1
2	370-5640-04	ESCUTCHEON (PE-2270E-A/B)	1
3	335-4874-20	DOOR ILLUMI	1
4	382-4394-21	BUTTON [BAND/AM] (PE-2231E-B)	1
4	382-4394-11	BUTTON [BAND/AM] (PE-2270E-A/B)	1
5	382-4393-20	BUTTON (FUND/POWER)	1
6	382-4396-22	BUTTON [DN/UP] (PE-2231E-B)	1
6	382-4396-11	BUTTON[PS/AS] (PE-2270E-A/B)	1
7	382-4453-00	BUTTON [EJECT]	1
8	335-5286-00	HOLDER [EJECT]	1
9	382-4470-20	BUTTON [RELEASE]	1
10	716-1721-00	P-TIGHT SCREW	5
11	378-0134-00	BADGE (PE-2231E-B)	1
11	378-0148-00	BADGE (PE-2270E-A/B)	1
12	382-4421-22	BUTTON [4]	1
13	382-4418-21	BUTTON [1 SCN]	1
14	382-4422-21	BUTTON [5 >/ II]	1
15	382-4419-21	BUTTON [2 RPT]	1
16	382-4423-21	BUTTON [6 TOP]	1
17	382-4420-21	BUTTON [3 RDM]	1
18	382-4414-21	BUTTON [AF/PTY]	1
19	382-4413-20	BUTTON [TA]	1
20	345-7817-21	SPONGE [RIGHT]	1
21	335-5306-00	ILLUMI PLATE [RIGHT]	1
22	335-5296-00	REAR COVER	1
23	380-5394-20	KNOB	1
24	335-5297-00	JOB PLATE	1
25	335-5298-00	JOB ARM	1
26	345-7818-21	SPONGE [LEFT]	1
27	335-5307-00	ILLUMI PLATE [LEFT]	1
28	940-1876A	DCP-ASSY (PE-2231E-B)	1
28	940-1874A	DCP-ASSY (PE-2270E-A)	1
28	940-1875A	DCP-ASSY (PE-2270E-B)	1
29	331-2014-00	LCD COVER	1
30	379-1113-41	INDICATOR	1
31	347-5366-20	FILM	1
32	347-5365-20	SHADE	1
33	335-5308-20	LCD ILLUMI	1
34	335-5309-20	LCD HOLDER	1
35	345-4441-37	LAMP CAP [BLUE] (PE-2231E-B)	3
35	345-4441-58	LAMP CAP [AMBER] (PE-2270E-A)	3
35	345-2830-20	LAMP CAP [GREEN] (PE-2270E-B)	3
36	345-4441-81	LAMP CAP [GREEN] (PE-2231E-B)	2
36	345-4441-58	LAMP CAP [AMBER] (PE-2270E-A)	2
36	345-2830-20	LAMP CAP [GREEN] (PE-2270E-B)	2
37	017-0441-00	PILOT LAMP (PE-2231E-B)	2
37	017-0414-00	PILOT LAMP (PE-2270E-A/B)	2
38	017-0444-00	PILOT LAMP (PE-2231E-B)	3
38	017-0410-00	PILOT LAMP (PE-2270E-A/B)	3
39	013-3812-11	TACT SWITCH	5
40	013-6002-50	TACT SWITCH	10
41	039-0889-00	SWITCH PWB	1

NO	PART NO.	DESCRIPTION	Q'TY
42	076-0522-00	PLUG	1
43	051-6013-00	IC	1
44	716-1792-00	SCREW	2
45	291-0074-00	STICKER	1
46	346-0097-00	LEATHER SHEET	1
47	382-4078-20	BUTTON [PUST OUT]	1
48	750-3173-00	SPRING	2
49	331-2002-20	HOOK PLATE	1
50	716-0778-00	WAVE SCREW	2
51	335-5312-20	HOOK	1
52	341-1627-20	SHAFT	1
53	750-3219-20	SPRING	1
54	370-5655-00	INNER-ES	1
55	286-8738-00	SET PLATE (PE-2231E-B)	1
55	286-8963-00	SET PLATE (PE-2270E-A/B)	1
56	304-0440-20	LOWER COVER	1
57	750-2796-0L	SPRING	2
58	714-5008-41	M/C SCREW	2
59	731-3006-80	TAPTIGHT SCREW	5
60	309-0664-21	FRONT PLATE	1
61	039-0888-00	MAIN PWB	1
62	074-1112-00	OUTLET SOCKET	1
63	305-0242-20	SIDE COVER [LEFT]	1
64	313-1643-00	HEAT SINK	1
65	051-2009-00	IC [POWER]	2
66	075-9004-00	RCA JACK [RED]	1
67	331-1766-21	IC HOLDER	1
68	347-5216-00	INSULATOR	1
69	075-9003-00	RCA JACK [WHITE]	1
70	039-0607-01	RCA PWB	1
71	347-5291-00	FILM	1
72	331-1862-00	SHIELD CASE	1
73	009-9006-60	CHOKE	1
74	102-3420-00	TRANSISTOR	1
75	060-0057-06	AUTO FUSE	1
76	074-1126-10	OUTLET SOCKET (ONLY PE-2231E-B)	1
77	074-1115-00	OUTLET SOCKET	1
78	039-0887-20	ISO PWB	1
79	880-2080B	TUNER PACK	1
80	313-1610-01	HEAT SINK	1
81	092-9000-00	ANT RECEPT	1
82	714-3006-81	M/C SCREW	1
83	307-0580-00	REAR PLATE	1
84	305-0247-21	SIDE COVER [RIGHT]	1
85	731-3006-80	TAPTIGHT SCREW	8
86	285-1340-00	GUIDE LABER [CAUTION]	1
87	303-0457-20	UPPER COVER	1
88	285-1426-00	GUIDE LABEL [LASER]	1
89	347-5215-00	INSULATOR	1
90	929-0065-80	CD MECHANISM	1
91	816-2376-00	FLAT CABLE	1
92	345-5619-00	SPACER (ONLY PE-2270E-A/B)	1
93	013-6001-50	TACT SW	4

BLOCK DIAGRAM



ELECTRICAL PARTS LIST

Note) Several different parts of the same reference number are alternative parts. One of those parts is used in the set.

SW PWB section

REF No.	PART No.	DESCRIPTION
C 701	178-6812-05	680pF
C 702	178-1032-05	0.01μ F
I/C 701	051-6013-00	LC75854W
P 701	076-0522-00	PLUG
PL 701	017-0444-00	PILOT LAMP (DRX 5375)
PL 702	017-0410-00	PILOT LAMP (DRB 4475)
PL 703	017-0444-00	PILOT LAMP (DRX 5375)
PL 704	017-0410-00	PILOT LAMP (DRB 4475)
PL 705	017-0441-00	PILOT LAMP (DRX 5375)
PL 706	017-0414-00	PILOT LAMP (DRB 4475)
R 701	117-1021-10	1/10W 1kΩ
R 702	117-1021-10	1/10W 1kΩ
R 703	117-1021-10	1/10W 1kΩ

REF No.	PART No.	DESCRIPTION
R 704	117-3921-10	1/10W 3.9kΩ
R 705	117-1241-10	1/10W 120kΩ
R 706	117-6831-10	1/10W 68kΩ
R 707	117-1031-10	1/10W 10kΩ
S 701	013-3812-11	
S 702	013-3812-11	
S 703	013-6002-50	
S 704	013-3812-11	
S 705	013-6002-50	
S 706	013-3812-11	
S 707	013-3812-11	
S 708	013-3812-11	

REF No.	PART No.	DESCRIPTION
S 709	013-3812-11	
S 710	013-3812-11	
S 711	013-6002-50	
S 712	013-6002-50	
S 713	013-6002-50	
S 714	013-6002-50	
S 715	013-6002-50	
S 716	013-6002-50	
S 717	013-6002-50	
S 718	013-6002-50	
S 719	013-6002-50	

DRX5375R/DRB4475R

Main PWB section

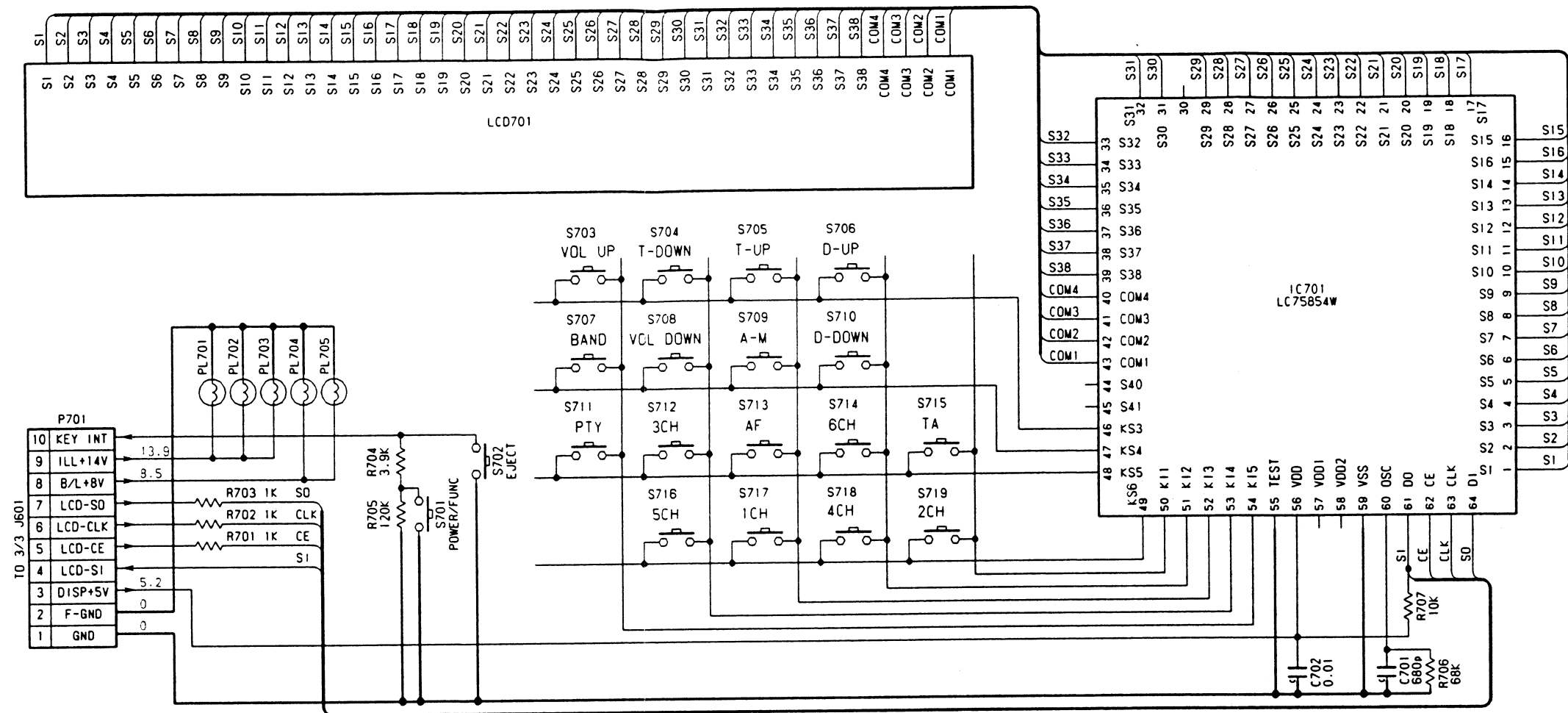
REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
ANT1	092-9000-00	ANT-RECEPT	C 610	178-4732-05	0.047 μ F	Q 203	125-2004-03	RN1403
BL 1	880-2080B	TUNER	C 613	178-4732-05	0.047 μ F	Q 204	125-2004-03	RN1403
C 1	176-1801-00	18pF CH	C 613	182-2263-13	6.3V22 μ F	Q 205	100-1162-00	2SA1162
C 2	178-1032-05	0.01 μ F	C 614	178-4732-05	0.047 μ F	Q 206	103-1858-00	2SD1858
C 5	182-1053-63	50V1 μ F	C 616	178-4732-05	0.047 μ F	Q 207	103-1858-00	2SD1858
C 6	178-6822-05	6800pF	C 617	178-2232-05	0.022 μ F	Q 208	103-1858-00	2SD1858
C 7	178-1042-78	0.1 μ F	C 619	178-4732-05	0.047 μ F	Q 209	103-1858-00	2SD1858
C 9	182-4763-23	10V47 μ F	C 801	178-3312-05	330pF	Q 210	101-1237-00	2SB1237
C 10	178-1032-05	0.01 μ F	C 802	182-2253-63	50V2.2 μ F	Q 211	102-2458-00	2SC2458
C 11	176-1011-00	100pF CH	C 803	178-5612-05	560pF	Q 212	103-1858-00	2SD1858
C 12	178-1222-55	1200pF	C 804	182-4763-13	6.3V47 μ F	Q 213	100-1162-00	2SA1162
C 13	178-8222-55	8200pF	C 805	178-1042-78	0.1 μ F	Q 451	103-1306-00	2SD1306
C 14	176-1011-00	100pF CH	C 806	176-4701-00	47pF CH	Q 452	103-1306-00	2SD1306
C 17	178-2232-05	0.022 μ F	C 807	176-8201-00	82pF CH	Q 601	125-2003-03	RN1203
C 18	178-2232-05	0.022 μ F	C 810	178-3312-05	330pF	Q 602	125-2004-03	RN1403
C 19	178-4732-05	0.047 μ F	C 811	178-5612-05	560pF	Q 603	100-1162-00	2SA1162
C 21	178-1522-05	1500pF	C 812	178-5612-05	560pF	Q 604	125-2003-06	RN1206
C 22	176-1801-00	18pF CH	C 813	178-2232-05	0.022 μ F	Q 605	125-2003-06	RN1206
C 23	176-1501-00	15pF CH	C 814	178-2232-05	0.022 μ F	Q 606	100-1162-00	2SA1162
C 24	182-4763-13	6.3V47 μ F	C 815	178-1032-05	0.01 μ F	Q 802	125-2004-03	RN1403
C 25	178-1032-05	0.01 μ F	C 816	176-1011-00	100pF CH	Q 901	103-1858-00	2SD1858
C 26	176-1011-00	100pF CH	C 817	178-3312-05	330pF	Q 902	103-1858-00	2SD1858
C 27	176-1011-00	100pF CH	C 901	182-1063-33	16V10 μ F	Q 903	125-0003-02	RN2202
C 28	176-1011-00	100pF CH	C 902	182-1063-33	16V10 μ F	Q 904	102-3420-00	2SC3420
C 29	176-1011-00	100pF CH	C 904	178-1022-05	1000pF	Q 904	103-1683-00	2SD1683
C 30	182-1053-63	50V1 μ F	D 201	001-0330-00	1SS119	Q 905	125-0003-02	RN2202
C 31	178-1042-78	0.1 μ F	D 202	001-0330-00	1SS119	Q 906	125-2003-02	RN1202
C 32	182-4763-23	10V47 μ F	D 203	001-0330-00	1SS119	R 1	117-8221-10	1/10W 8.2k Ω
C 101	182-2253-62	50V2.2 μ F	D 204	001-0188-01	1S1885A	R 2	111-3311-91	1/4WS 330 Ω
C 102	182-2253-62	50V2.2 μ F	D 205	001-0330-00	1SS119	R 3	117-1831-10	1/10W 18k Ω
C 103	182-2253-62	50V2.2 μ F	D 206	001-0330-00	1SS119	R 4	117-1021-10	1/10W 1k Ω
C 104	182-2253-62	50V2.2 μ F	D 207	001-0377-46	MA4091L	R 5	117-1231-10	1/10W 12k Ω
C 105	178-2232-05	0.022 μ F	D 208	001-0377-46	MA4091L	R 6	117-2231-10	1/10W 22k Ω
C 201	182-1063-33	16V10 μ F	D 209	001-0503-33	HZS6B2L	R 7	117-1021-10	1/10W 1k Ω
C 202	184-2283-32	16V2200 μ F	D 210	001-0466-00	S5688B	R 8	117-2241-10	1/10W 220k Ω
C 203	172-1041-11	0.1 μ F	D 211	001-0330-00	1SS119	R 9	117-1031-10	1/10W 10k Ω
C 204	182-1063-33	16V10 μ F	D 501	001-0377-23	MA4043M	R 10	117-1031-10	1/10W 10k Ω
C 206	182-1063-33	16V10 μ F	D 601	001-0330-00	1SS119	R 11	117-1031-10	1/10W 10k Ω
C 207	178-4732-05	0.047 μ F	D 602	001-0659-00	LED	R 12	117-1021-10	1/10W 1k Ω
C 208	182-1063-33	16V10 μ F	D 603	001-0589-00	1SS145	R 13	117-1031-10	1/10W 10k Ω
C 209	178-1032-05	0.01 μ F	D 604	001-0330-00	1SS119	R 14	117-1021-10	1/10W 1k Ω
C 451	182-1063-33	16V10 μ F	D 605	001-0330-00	1SS119	R 15	117-3331-10	1/10W 33k Ω
C 452	182-1063-33	16V10 μ F	D 606	001-0330-00	1SS119	R 16	111-1021-91	1/4WS 1k Ω
C 501	182-3343-63	50V0.33 μ F	D 607	001-0330-00	1SS119	R 17	117-1231-10	1/10W 12k Ω
C 502	182-2253-63	50V2.2 μ F	D 608	001-0423-19	MA4056	R 18	111-2711-91	1/4WS 270 Ω
C 503	182-1063-33	16V10 μ F	D 609	001-0330-00	1SS119	R 19	117-2221-10	1/10W 2.2k Ω
C 504	182-1063-33	16V10 μ F	D 801	001-0330-00	1SS119	R 21	117-5631-10	1/10W 56k Ω
C 505	182-2253-63	50V2.2 μ F	D 802	001-0330-00	1SS119	R 22	117-1021-10	1/10W 1k Ω
C 506	182-1063-33	16V10 μ F	D 901	001-0377-32	MA4056M	R 23	117-2221-10	1/10W 2.2k Ω
C 507	182-1063-33	16V10 μ F	D 902	001-0377-45	MA4082H	R 24	117-1021-10	1/10W 1k Ω
C 510	176-5601-00	56pF CH	IC 1	051-0422-51	NJM4558D	R 25	117-1021-10	1/10W 1k Ω
C 511	176-5601-00	56pF CH	IC 2	051-6201-00	LC72146M	R 26	117-1021-10	1/10W 1k Ω
C 512	182-4753-53	35V4.7 μ F	IC 102	051-2009-00	TDA8561Q	R 27	117-1001-10	1/10W 10 Ω
C 513	182-4753-53	35V4.7 μ F	IC 103	051-2009-00	TDA8561Q	R 101	117-4721-10	1/10W 4.7k Ω
C 514	176-1511-00	150pF CH	IC 502	051-5008-00	M62419FP	R 102	117-4721-10	1/10W 4.7k Ω
C 515	176-1511-00	150pF CH	IC 601	052-1308-00	μ PD178016-511-3B9	R 103	117-4721-10	1/10W 4.7k Ω
C 516	178-8232-55	0.082 μ F	IC 602	051-0869-50	NJM2103D	R 104	117-4721-10	1/10W 4.7k Ω
C 517	182-4753-53	35V4.7 μ F	IC 603	051-0160-01	HD74LS07P	R 201	117-4721-10	1/10W 4.7k Ω
C 518	178-8232-55	0.082 μ F	IC 801	051-1819-10	TDA7479D	R 202	111-1221-91	1/4WS 1.2k Ω
C 519	182-4753-53	35V4.7 μ F	J 601	074-1112-00	OUTLET SOCKET	R 203	111-1031-91	1/4WS 10k Ω
C 520	182-2263-33	16V22 μ F	J 602	074-1126-10	OUTLET SOCKET	R 204	111-1591-91	1/4WS 1.5 Ω
C 521	182-2263-33	16V22 μ F	L 1	010-2330-17	5.6 μ H	R 205	111-1591-91	1/4WS 1.5 Ω
C 522	178-5622-05	5600pF	L 2	010-2230-38	220 μ H	R 206	111-1591-91	1/4WS 1.5 Ω
C 523	178-5632-05	0.056 μ F	L 601	010-2230-64	2.2 μ H	R 207	111-1591-91	1/4WS 1.5 Ω
C 524	178-5622-05	5600pF	L 602	010-2230-26	22 μ H	R 208	111-2221-91	1/4WS 2.2k Ω
C 525	178-5622-05	5600pF	Q 1	100-1298-00	2SA1298	R 209	117-1031-10	1/10W 10k Ω
C 526	178-5632-05	0.056 μ F	Q 2	100-1162-00	2SA1162	R 210	117-1031-10	1/10W 10k Ω
C 527	178-5622-05	5600pF	Q 3	103-1306-00	2SD1306	R 211	117-1091-10	1/10W 1 Ω
C 528	182-1063-33	16V10 μ F	Q 4	125-0002-03	RN2403	R 212	117-1091-10	1/10W 1 Ω
C 529	182-1063-33	16V10 μ F	Q 5	108-0669-00	2SK669	R 213	111-2711-91	1/4WS 270 Ω
C 530	184-2273-22	10V220 μ F	Q 201	101-1237-00	2SB1237	R 214	111-1091-91	1/4WS 1 Ω
C 531	182-4763-33	16V47 μ F	Q 202	102-2712-00	2SC2712	R 215	111-1091-91	1/4WS 1 Ω
C 601	178-1042-78	0.1 μ F				R 216	111-2711-91	1/4WS 270 Ω

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
R 217	111-2231-91	1/4WS 22kΩ	R 513	117-6821-10	1/10W 6.8kΩ	R 630	117-1041-10	1/10W 100kΩ
R 218	111-1031-91	1/4WS 10kΩ	R 514	117-6821-10	1/10W 6.8kΩ	R 631	117-2231-10	1/10W 22kΩ
R 219	111-1021-91	1/4WS 1kΩ	R 515	111-3311-91	1/4WS 330Ω	R 632	117-4321-10	1/10W 4.3kΩ
R 220	117-4721-10	1/10W 4.7kΩ	R 601	111-8211-91	1/4WS 820Ω	R 633	117-1041-10	1/10W 100kΩ
R 221	117-3921-10	1/10W 3.9kΩ	R 602	111-1031-91	1/4WS 10kΩ	R 634	111-4721-91	1/4WS 4.7kΩ
R 222	117-1021-10	1/10W 1kΩ	R 603	111-4721-91	1/4WS 4.7kΩ	R 635	111-4721-91	1/4WS 4.7kΩ
R 223	117-1021-10	1/10W 1kΩ	R 604	111-1031-91	1/4WS 10kΩ	R 801	117-2221-10	1/10W 2.2kΩ
R 224	117-1031-10	1/10W 10kΩ	R 605	117-1031-10	1/10W 10kΩ	R 802	117-3331-10	1/10W 33kΩ
R 225	117-1031-10	1/10W 10kΩ	R 606	117-1041-10	1/10W 100kΩ	R 803	117-3321-10	1/10W 3.3kΩ
R 226	111-1521-91	1/4WS 1.5kΩ	R 607	117-1031-10	1/10W 10kΩ	R 804	117-2231-10	1/10W 22kΩ
R 227	117-2231-10	1/10W 22kΩ	R 608	117-3321-10	1/10W 3.3kΩ	R 805	117-1031-10	1/10W 10kΩ
R 228	117-2231-10	1/10W 22kΩ	R 609	117-1041-10	1/10W 100kΩ	R 806	117-1231-10	1/10W 12kΩ
R 229	111-2201-91	1/4WS 22Ω	R 610	111-2231-91	1/4WS 22kΩ	R 807	117-1041-10	1/10W 100kΩ
R 230	111-2711-91	1/4WS 270Ω	R 611	117-1031-10	1/10W 10kΩ	R 808	117-1031-10	1/10W 10kΩ
R 231	111-2201-91	1/4WS 22Ω	R 612	117-4711-10	1/10W 470Ω	R 809	117-1031-10	1/10W 10kΩ
R 451	117-1031-10	1/10W 10kΩ	R 613	111-2231-91	1/4WS 22kΩ	R 810	117-2211-10	1/10W 220Ω
R 452	117-1031-10	1/10W 10kΩ	R 614	117-4731-10	1/10W 47kΩ	R 901	111-1091-91	1/4WS 1Ω
R 453	117-3311-10	1/10W 330Ω	R 615	117-1541-10	1/10W 150kΩ	R 902	111-1091-91	1/4WS 1Ω
R 454	111-1021-91	1/4WS 1kΩ	R 616	117-4731-10	1/10W 47kΩ	R 903	111-2211-91	1/4WS 220Ω
R 456	117-3311-10	1/10W 330Ω	R 617	032-0092-81	1/10W 180kΩ	R 904	111-3311-91	1/4WS 330Ω
R 501	117-1031-10	1/10W 10kΩ	R 618	032-0092-28	1/10W 62kΩ	R 907	111-1041-91	1/4WS 100kΩ
R 502	117-3331-10	1/10W 33kΩ	R 619	117-8221-10	1/10W 8.2kΩ	R 908	111-1041-91	1/4WS 100kΩ
R 503	117-2231-10	1/10W 22kΩ	R 620	111-1831-91	1/4WS 18kΩ	R 909	111-1041-91	1/4WS 100kΩ
R 504	117-3331-10	1/10W 33kΩ	R 621	117-4721-10	1/10W 4.7kΩ	R 910	111-4731-91	1/4WS 47kΩ
R 505	117-1031-10	1/10W 10kΩ	R 622	117-4721-10	1/10W 4.7kΩ	S 601	013-3932-00	DSP-201M-SOOB
R 506	117-3331-10	1/10W 33kΩ	R 623	117-4721-10	1/10W 4.7kΩ	SUP1	060-0122-10	
R 507	117-2231-10	1/10W 22kΩ	R 624	117-1031-10	1/10W 10kΩ	T 201	009-9006-60	EI-19
R 508	117-3331-10	1/10W 33kΩ	R 625	117-1031-10	1/10W 10kΩ	X 1	061-1066-00	7.2MHz
R 509	117-5131-10	1/10W 51kΩ	R 626	117-1021-10	1/10W 1kΩ	X 601	060-1023-00	4.5MHz
R 510	117-5131-10	1/10W 51kΩ	R 627	117-1021-10	1/10W 1kΩ	X 801	061-3013-00	4.33MHz
R 511	117-6831-10	1/10W 68kΩ	R 628	117-1031-10	1/10W 10kΩ			
R 512	117-6831-10	1/10W 68kΩ	R 629	117-1021-10	1/10W 1kΩ			

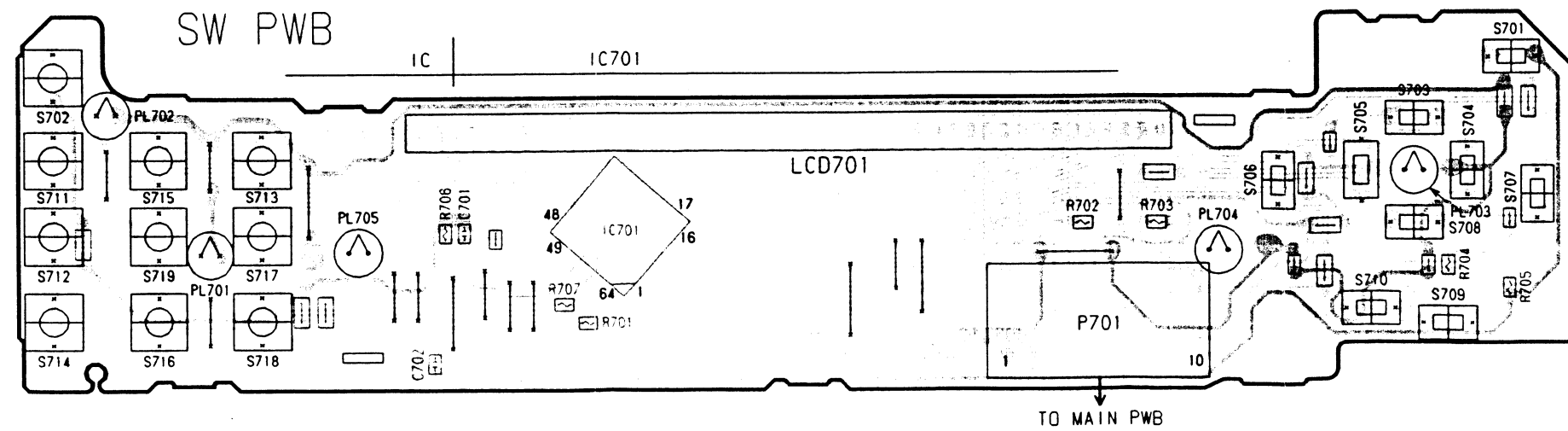
CD Mechanism Section

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
C 10	178-1032-78	0.01uF	C 37	178-1522-78	1500pF	R 12	117-1031-10	1/10W 10kΩ
C 11	182-1063-32	16V10uF	C 38	178-1032-78	0.01uF	R 14	117-5631-10	1/10W 56kΩ
C 12	178-1042-78	0.1uF	C 39	042-0230-00	35V0.47uF	R 15	117-2731-10	1/10W 27kΩ
C 13	182-1073-12	6.3V100uF	C 40	178-1032-78	0.01uF	R 16	117-2211-10	1/10W 220Ω
C 14	178-1032-78	0.01uF	C 41	178-1042-78	0.1uF	R 17	117-2211-10	1/10W 220Ω
C 15	182-2263-12	6.3V22uF	C 42	178-2222-78	2200pF	R 18	117-1031-10	1/10W 10kΩ
C 16	178-1032-78	0.01uF	C 100	182-4763-12	6.3V47uF	R 19	117-2231-10	1/10W 22kΩ
C 17	178-1042-78	0.1uF	C 101	182-4763-12	6.3V47uF	R 20	117-4721-10	1/10W 4.7kΩ
C 18	178-1042-78	0.1uF	C 102	178-1032-78	0.01uF	R 21	117-2231-10	1/10W 22kΩ
C 19	176-1007-00	10pF CH	C 103	182-1073-32	16V100uF	R 22	117-4711-10	1/10W 470Ω
C 20	178-1042-78	0.1uF	D 1	001-0563-00	GL380	R 23	117-1011-10	1/10W 100Ω
C 21	182-2263-12	6.3V22uF	D 2	001-0563-00	GL380	R 24	117-1021-10	1/10W 1kΩ
C 22	176-2096-00	2pF CJ	D 3	001-0563-00	GL380	R 25	117-1001-10	1/10W 10Ω
C 23	178-1042-78	0.1uF	IC 1	051-1014-10	TA7291S	R 26	117-3331-10	1/10W 33kΩ
C 24	178-1022-78	1000pF	IC 2	051-6015-05	BA6392FP	R 27	117-3631-10	1/10W 36kΩ
C 25	176-1007-00	10pF CH	IC 3	051-6314-05	TC9404FN	R 28	117-1241-10	1/10W 120kΩ
C 26	176-1007-00	10pF CH	IC 4	051-1971-00	CXA16010M	R 29	117-3631-10	1/10W 36kΩ
C 27	182-1073-12	6.3V100uF	IC 5	051-6313-00	CXD2545Q	R 30	117-1041-10	1/10W 100kΩ
C 28	178-1042-78	0.1uF	L 1	010-2155-03	10uH	R 31	117-1031-10	1/10W 10kΩ
C 29	182-1073-12	6.3V100uF	L 2	010-2155-03	10uH	R 32	117-6821-10	1/10W 6.8kΩ
C 30	178-1042-78	0.1uF	L 3	010-2155-03	10uH	R 33	117-3321-10	1/10W 3.3kΩ
C 31	176-1007-00	10pF CH	Q 1	101-1237-00	2SB1237	R 34	117-1051-10	1/10W 1MΩ
C 32	178-2212-78	220pF	Q 101	060-0252-01	PT4850F	R 35	117-1041-10	1/10W 100kΩ
C 33	178-1042-78	0.1uF	Q 102	060-0252-01	PT4850F	R 36	117-1031-10	1/10W 10kΩ
C 34	178-2212-78	220pF	Q 103	060-0252-01	PT4850F	X 1	060-1014-00	16.9344MHz
C 35	178-1032-78	0.01uF	R 10	111-2711-91	1/4WS 270Ω			
C 36	178-4732-78	0.047uF	R 11	117-8231-10	1/10W 82kΩ			

■CIRCUIT DIAGRAM 1/3
SW PWB section

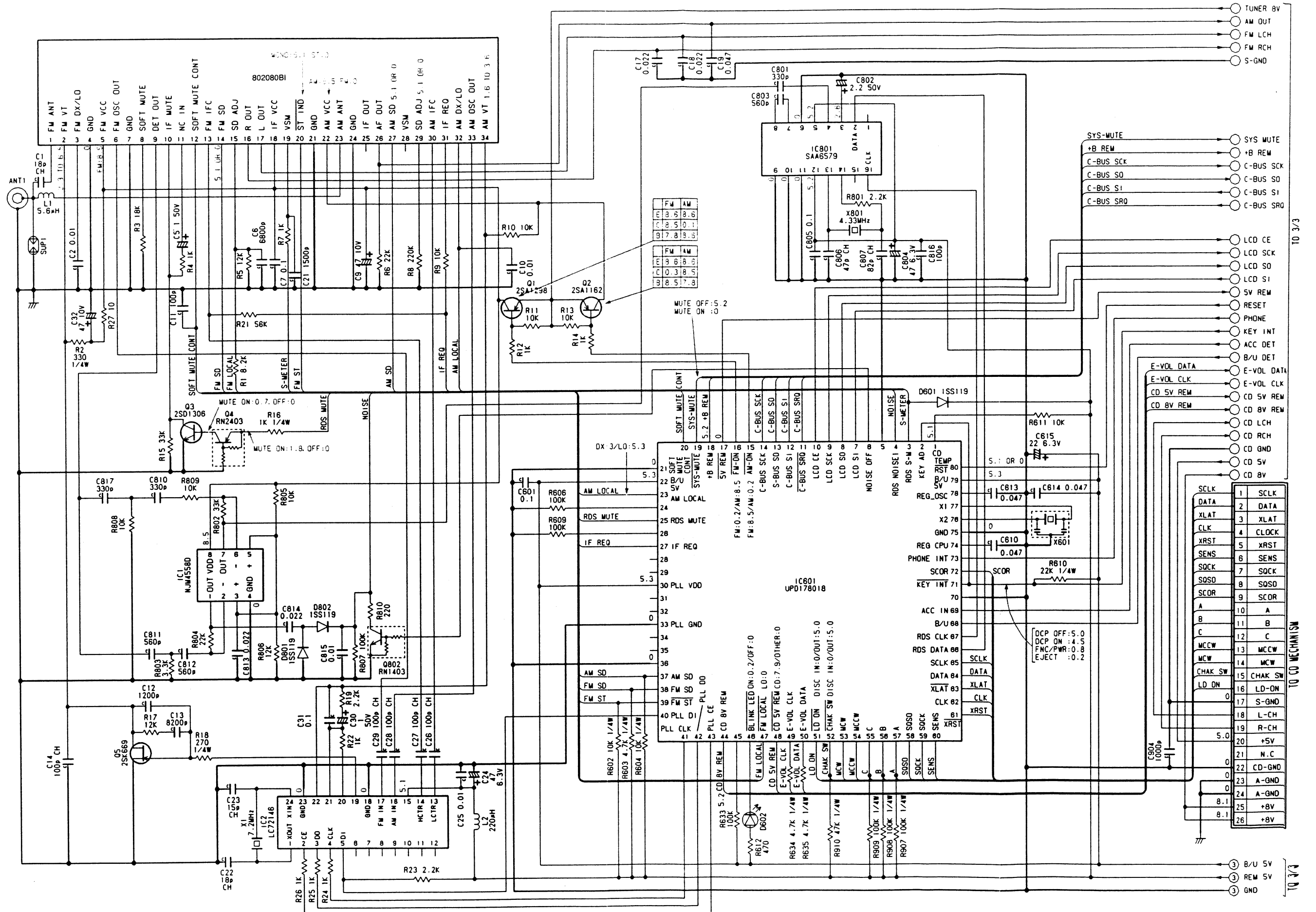


■PRINTED WIRING BOARD
SW PWB section



■ CIRCUIT DIAGRAM 2/3

Main PWB section 1/2



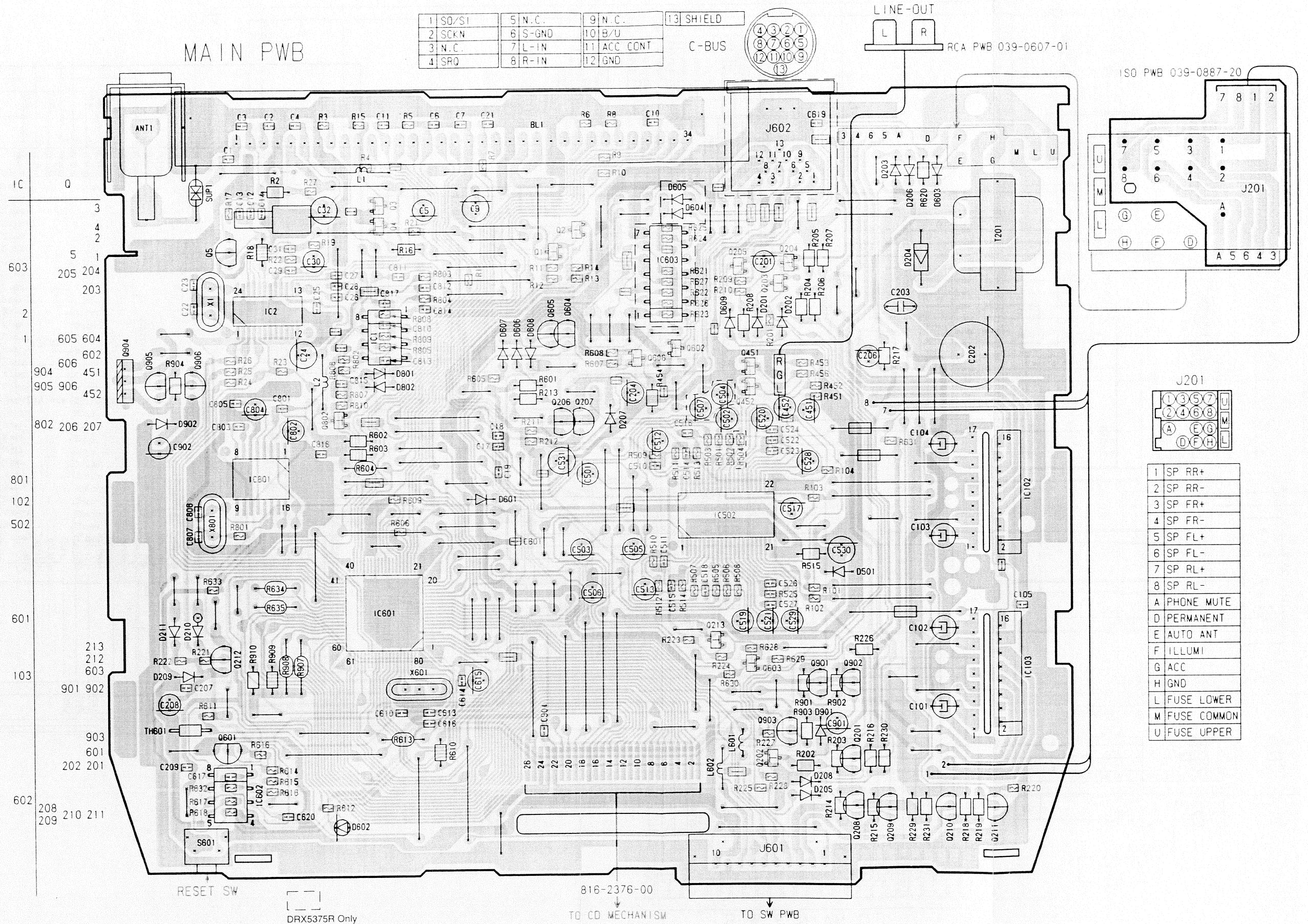
Main PWB section 2/2



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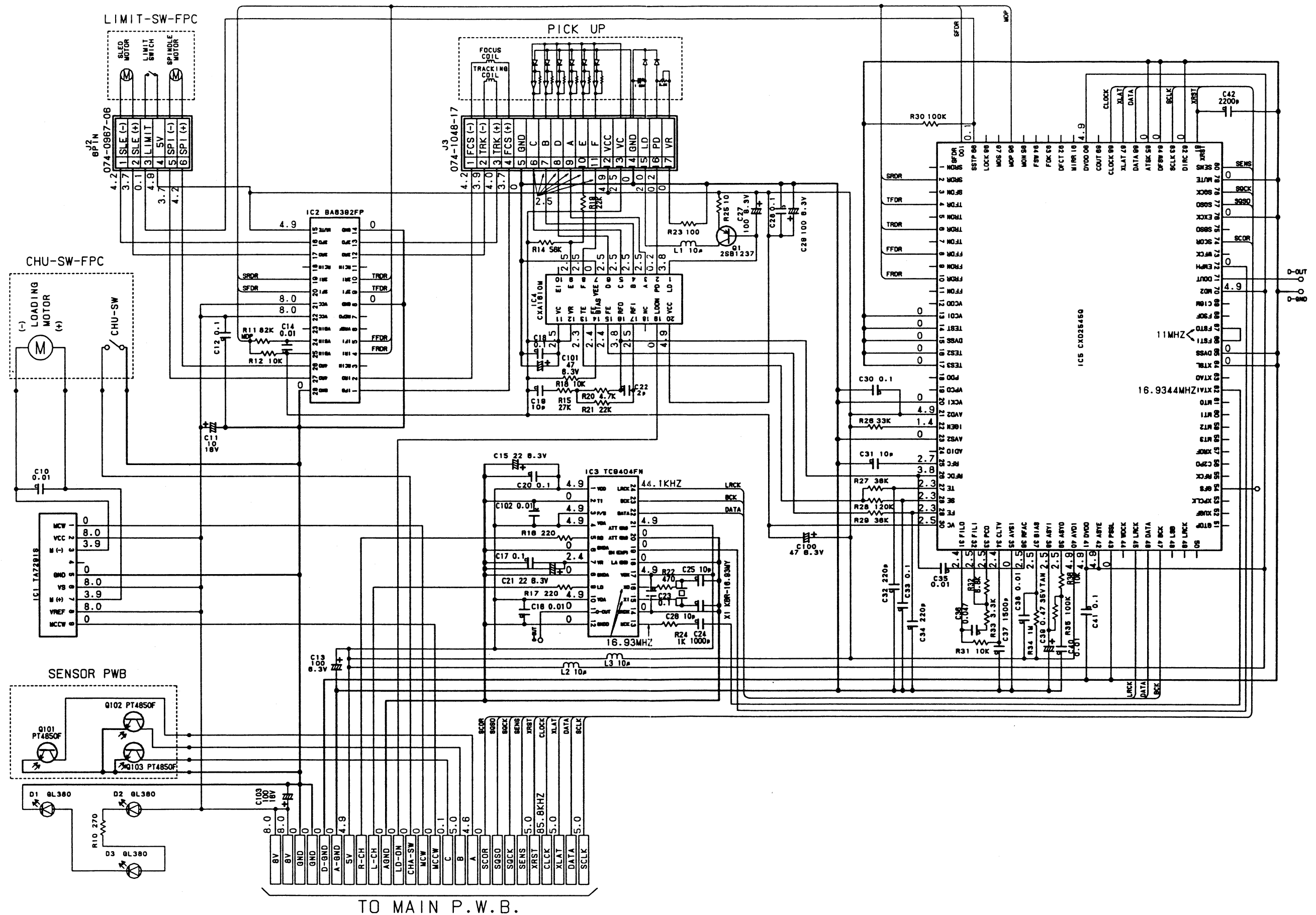
■ PRINTED WIRING BOARD

Main PWB section



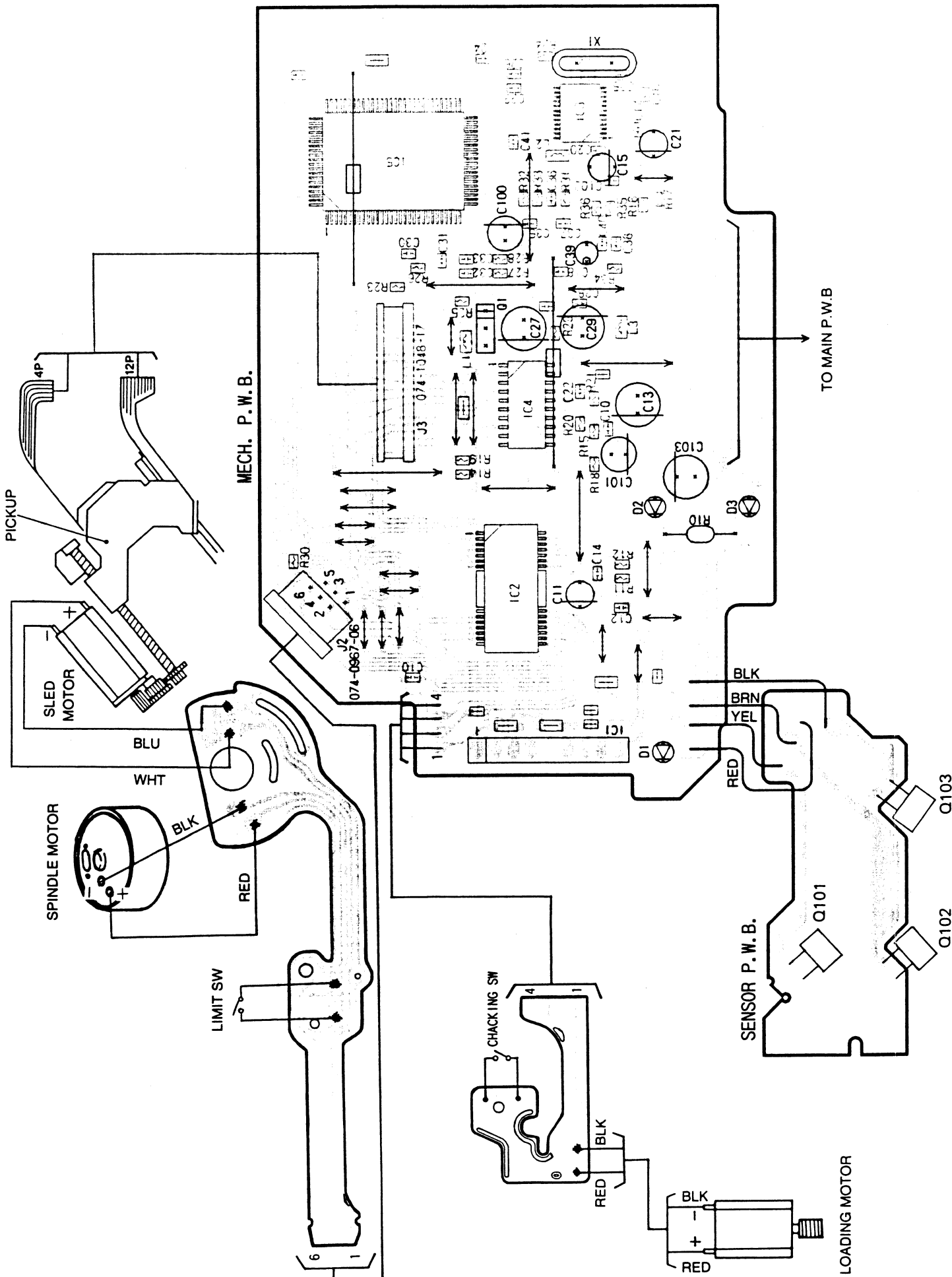
CIRCUIT DIAGRAM

CD Mechanism Section 929-0065-80 (BB-CD)



PRINTED WIRING BOARD

CD Mechanism Section 929-0065-80 (BB-CD)



EXPLODED VIEW

CD Mechanism Section 929-0065-80 (BB-CD)

NO.	PART NO.	DESCRIPTION	Q'TY	NO.	PART NO.	DESCRIPTION	Q'TY
1	966-0308-06	CHASSIS ASS'Y	1	46	750-3090-02	RO-SPRING-L	1
2	966-0309-04	L-DISC-G-ASS'Y	1	47	750-3091-03	RO-SPRING-R	1
3	966-0310-06	SFT-P-CH-ASS'Y	1	48	750-3092-03	SHIFT SPRING	1
4	HBS-430-100	GEAR-SUB-ASS'Y	1	49	750-3094-00	S-ARM SPRING	1
5	966-0312-06	SHIFT-P-ASS'Y	1	50	750-3096-01	DR-SPRING-R	1
6	SMA-147-100	MOTOR ASS'Y(LOADING)	1	51	750-3098-00	L-LINK SPRING	2
7	966-0358-01	DRIVE-L-PL-ASS'Y	1	52	750-3164-00	DR-SPRING-LR	1
8	966-0359-03	SIDE-L-PL-ASS'Y	1	53	750-3188-00	DR-SP-F-B	1
9	HBS-431-100	PWB ASS'Y	1	54	750-3189-00	SIDE-L-SPRING	1
10	HBS-432-100	LS-GEAR ASS'Y	1	55	750-3201-00	DR-SPRING-F-R	1
11	SMA-146-100	MOTOR ASS'Y(SLED)	1	56	750-3202-00	CENTER SPRING-B	1
12	SMA-151-100	MOTOR ASS'Y(SPINDLE)	1	57	800-4904-60	VINYL COAT WIRE(BLK)	1
13	716-1733-00	SCREW	2	58	800-4910-60	VINYL COAT WIRE(BLK)	1
14	013-3879-01	CHUCKING SWITCH	1	59	801-4910-60	VINYL COAT WIRE(BRN)	1
15	039-0586-01	FLEXIBLE PWB	1	60	802-4904-60	VINYL COAT WIRE(RED)	1
16	039-0588-01	SENSOR PWB	1	61	802-4910-60	VINYL COAT WIRE(RED)	1
17	060-0252-01	PHOTO TR (PT4850F)	3	62	804-4910-60	VINYL COAT WIRE(YEL)	1
18	345-7513-01	CLAMPER SHEET	1	63	816-2372-00	VINYL COAT WIRE(BLU)	1
19	345-7514-00	S-PEB-SHEET	1	64	816-2373-00	VINYL COAT WIRE(WHT)	1
20	620-0485-03	FRONT PLATE	1	65	013-7100-00	LIMIT SWITCH	1
21	620-0488-01	S-L-LINK PLATE	1	66	620-0198-03	CLAMPER PLATE	1
22	620-0489-01	MOTOR PLATE	1	67	620-0491-02	SPRING PLATE	1
23	620-0492-01	MOTOR BRACKET	1	68	620-0690-00	RATTLE PLATE	1
24	620-0691-03	MECHA BRACKET	1	69	621-0205-02	CLAMPER PLATE	1
25	621-0242-02	U-DISC GUIDE	1	70	621-0251-02	LOCK LINK	1
26	621-0243-02	ROLLER SLEEVE	2	71	621-0252-03	DISC STOPPER	1
27	621-0248-06	RACK GEAR	1	72	621-0253-01	MOTOR HOLDER	1
28	621-0249-02	ROLLER GEAR	1	73	621-0255-02	SECOND GEAR	1
29	621-0250-01	DAMPER HOLDER	4	74	621-0257-05	SCREW HOLDER	1
30	621-0258-03	LOADING ROLLER	2	75	621-0357-01	PICKUP GUIDE	1
31	622-1072-04	ROLER SHAFT	1	76	621-0358-02	LS-HOLDER-F	1
32	622-1219-01	SHIFT ROLLER	1	77	621-0359-02	LS-HOLDER-R	1
33	629-0058-00	DAMPER-DL	4	78	622-1073-02	CLAMPER ROLLER	1
34	714-2003-81	MACHINE SCREW(M2X3)	18	79	716-0675-00	SCREW	2
35	714-2603-81	MACHINE SCREW(M2.6X3)	5	80	716-1555-00	WAVE SCREW	1
36	716-1468-00	SCREW	4	81	732-2004-11	SEMS SCREW	2
37	716-1507-00	SCREW	2	82	739-1735-17	PRECISION SCREW	2
38	716-1670-00	SCREW	6	83	750-3097-02	CLAMPER SPRING	1
39	716-1677-00	SCREW	1	84	750-3099-00	ES-SPRING	1
40	716-1704-00	SCREW	1	85	746-0761-00	WASHER	2
41	716-1742-00	SCREW	1	86	966-0314-01	STOP LINK ASS'Y	1
42	743-1500-10	E-RING	3	87	966-0447-02	DR-PLATE ASS'Y	1
43	746-0712-03	WASHER	1	88	966-0448-00	SIDE PLATE ASS'Y	1
44	746-0762-00	WASHER	1	89	966-0449-00	CLAMP LINK ASS'Y	1
45	746-0877-02	WASHER	2	90	969-0005-00	PICKUP UNIT ASS'Y	1

